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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOSEPH J. MASSAD

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Appeal 2009-008104  
Application 10/720,608  
Technology Center 3700

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Before LINDA E. HORNER, STEVEN D.A. McCARTHY and  
KEN B. BARRETT, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

The Appellant appeals under 35 U.S.C. § 134 from the decision of the Examiner finally rejecting claims 6 and 9-18. The Examiner rejects claims 6, 10 and 12 under 35 U.S.C. § 102(b) as being anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over, Laszlo (US 4,608,020, issued Aug. 26, 1986). The Examiner also rejects under § 103(a) claims 9, 11, 13, 16 and 18 as being unpatentable over Opotow (US 2,309,270, issued Jan. 26, 1943) and Laszlo; claim 14 as being unpatentable over Laszlo and Faust (US 3,826,002, issued Jul. 30, 1974); claim 15 as being unpatentable over Opotow, Laszlo and Faust; and claim 17 as being unpatentable over Opotow, Laszlo and Lüth (US 5,188,529, issued Feb. 23, 1993). The Examiner has withdrawn claims 1-5, 7 and 8 from consideration. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Claim 9 is illustrative of the claimed subject matter:

9. A removable dental prosthesis, comprising:

a special denture tooth housing for insertion into the removable dental prosthesis, said tooth housing provided with sides and a bottom forming a receptacle located centrally between the sides and above the bottom, and at least one undercut notch on the sides of the receptacle in the tooth housing; and

a central bearing device removably attached by an adhesive material to said tooth housing, said central bearing device receivable in a mouth of a patient to maintain a proper relative vertical spacing relationship between a maxillary and an opposing mandibular of said dental prosthesis through all eccentric movements such that the

1 contour of an occlusal surface of said special tooth  
2 conforms to and is molded by interaction with  
3 opposing teeth of the patient.  
4

## 5 ISSUES

6 Only issues and findings of fact contested by the Appellant have been  
7 considered. *See Ex Parte Frye*, 94 USPQ2d 1072, 1075-76 (BPAI 2010).

8 Two issues raised in this appeal are:

9 *First*, does Laszlo describe a method which necessarily  
10 produces a denture including a special denture tooth provided  
11 with sides and a bottom forming a receptacle and at least one  
12 undercut notch in the receptacle, the contour of an occlusal  
13 surface of the denture tooth being identical to an occlusal  
14 surface conforming to and having been molded by interaction  
15 with opposing teeth? (*See App. Br. 11.*)

16 *Second*, do the evidence and technical reasoning  
17 underlying the rejection of independent claim 9 adequately  
18 support the conclusion that the subject matter of claim 9 would  
19 have been obvious? (*See App. Br. 17.*)  
20

## 21 FINDINGS OF FACT

22 The record supports the following findings of fact (“FF”) by a  
23 preponderance of the evidence.

24 1. We adopt and incorporate by reference the findings of the  
25 Examiner at page 3, line 15 (“Laszlo teaches . . .”) through line 19 (“ . . .  
26 provides a notch.”). These findings are supported by column 3, lines 16-23  
27 of Laszlo and by Figures 1-3 of Laszlo.

2. Laszlo describes a method for manufacturing an artificial denture. The method starts with a denture baseplate *1* of wax containing six frontal teeth *2* and four lateral teeth *3*, *3'* on each side. Laszlo describes the teeth *2*, *3*, *3'* as being embedded in the wax material of the dental baseplate *1* to a certain depth so as to be held firmly in the baseplate *1*. (Laszlo, col. 3, ll. 16-20.)

3. Laszlo describes the four lateral teeth *3*, *3'* on each side as being provided with an anatomically true outer contour. The lateral teeth *3*, *3'* are hollowed out to define receptacles *30* surrounded by relatively thin walls or sides *31*. (Laszlo, col. 3, ll. 20-23.)

4. Figures 2 and 3 of Laszlo depict the receptacle *30* in each of the lateral teeth *3*, *3'* as being hourglass-shaped. Figures 2 and 3 depict the lower portions of the receptacles *30* as flaring downwardly and outwardly. This downward and outward flare of each receptacle *30* defines an undercut notch extending circumferentially about the inner surfaces of the relatively thin wall *31* surrounding the receptacle *30*. This downwardly and outwardly flared lower portion of the receptacle *30* necessarily would tend to retain hardened wax or resin in the receptacle due to the undercut nature of the lower portion, even though Laszlo does not expressly disclose the performance of this function. (*Cf.* Ans. 6 (finding that “the show bottom of the hourglass shape of [Laszlo’s receptacles *30*] will inherently function as an undercut notch.”).)

5. Laszlo’s method includes the steps of positioning the dental baseplate *1* on the bed of a dental articulator. An upper denture having solid teeth is placed onto the movable upper portion of the articulator. (Laszlo, col. 3, ll. 23-28.) The receptacles of the lateral teeth *3*, *3'* are filled with wax

4. The articulator is closed. The upper portion of the articulator is moved to stimulate the masticating motion of the jaws. Laszlo teaches that this movement serves to remove superfluous wax from the top of the teeth by rubbing action of the solid teeth in the upper denture. (Laszlo, col. 3, ll. 34-42.)

6. After the upper denture and the dental baseplate 1 are removed from the articulator, both the upper denture and the baseplate 1 are placed in the mouth of a patient. The patient's chewing movements remove additional wax from the teeth 3, 3'. Laszlo teaches that this step yields a remaining tooth surface on each lateral tooth 3, 3' corresponding to the final shape of the ideal denture. (Laszlo, col. 3, ll. 45-51.)

7. Laszlo teaches enclosing the dental baseplate 1 in a mold and heating the mold. The heating melts the wax and leaves a cavity corresponding to the shape of the baseplate 1 and the hollow portions of the tubular teeth. (Laszlo, col. 3, ll. 52-59.)

8. Laszlo teaches casting the denture in two steps. A tooth-colored plastic, that is, resin material is initially poured to fill the hollow teeth. Subsequently, a gum-colored material is poured to fill the baseplate cavity. (Laszlo, col. 3, ll. 60-63.)

9. We adopt the Examiner's finding that the final plastic forming the bottom of each lateral tooth, that is, the interface between the tooth-colored and gum-colored materials, will constitute the bottom of each lateral tooth. (Ans. 6.) Each lateral tooth will have sides and a bottom.

10. Implicit in the Examiner's finding that the product of Laszlo's method anticipates the subject matter of claim 6 is a finding that the contour of the occlusal surfaces of the lateral teeth of a denture fabricated by

1 Laszlo's method would be identical to the contour of an occlusal surface  
2 "conforming to and having been molded by interaction with opposing teeth."  
3 We adopt this finding.

4 11. As the Examiner points out, the method disclosed by the  
5 Appellant's Specification for forming the subject matter of claims 6 and 9  
6 "fills a hollow pre-tooth with resin and before the resin hardens, shapes the  
7 resin by occluding the tooth with the opposing tooth to shape the occlusal  
8 surface forming the final tooth." (Ans. 6; *see also* Spec. 14, l. 21 – Spec. 15,  
9 l. 6.) Similarly, Laszlo "fills a hollow pre-tooth with wax, shapes the wax  
10 against the opposing tooth and then melts the wax forming a cast in which is  
11 cast the final tooth." (Ans. 7; *see also* FF 5-8.) The similarity between the  
12 method disclosed by the Specification and the method described by Laszlo  
13 provides a sound basis for the Examiner to infer that the occlusal surfaces of  
14 wax fillings formed by Laszlo's method prior to the casting of the denture  
15 are identical to surfaces molded by interaction with opposing teeth in  
16 accordance with the method disclosed in the Specification. It follows that  
17 the Examiner has a sound basis for inferring that the occlusal surfaces of the  
18 resinous teeth formed by casting in the mold formed around the wax fillings  
19 are identical to surfaces molded by interaction with opposing teeth in  
20 accordance with the method disclosed in the Specification. Since the  
21 Appellant provides no persuasive evidence to the contrary, we adopt the  
22 inference as fact.

23 12. We adopt and incorporate by reference the Examiner's findings  
24 at page 4, line 7 ("Opotow shows . . .") through line 12 (" . . . a tooth housing  
25 with a receptacle.").

13. Opotow discloses a device and method capable of determining the proper relationship of plates of completed dentures as regard the bite or occlusion of the patient. (Opotow 1, first column, ll. 34-39.) Opotow describes the method as one to determine whether the occlusion of the dentures is balanced under biting pressure. “Any variation of gum tissue not accounted for in the construction of the dentures will now become apparent, inasmuch as softened tissue will give in response to the pressure of the dental plate thereagainst and there will be no balanced occlusion of teeth under biting stress.” (Opotow 2, first column, ll. 30-35.)

## ANALYSIS

### *First Issue*

Claim 6 recites a

special denture tooth for use in a removable dental prosthesis, comprising: a special denture tooth for insertion into a removable dental prosthesis, *said denture tooth provided with sides and a bottom forming a receptacle* located centrally between the sides and atop the bottom, *at least one undercut notch in the receptacle to retain a resin filling the receptacle and the undercut notch to form the occlusal surface of the denture tooth, the contour of said occlusal surface conforming to and having been molded by interaction with opposing teeth.*

(Emphasis added.)

Laszlo describes a method which necessarily produces a denture including a special denture tooth provided with sides and a bottom forming a receptacle. (FF 3 and 9.) In addition, the contours of the occlusal surfaces of the lateral teeth of dentures formed by Laszlo’s method are identical to occlusal surfaces conforming to and having been molded by interaction with



opposing teeth. (FF 10 and 11.) Since claim 6 recites a structure, namely, a removable dental prosthesis, and since the recitation limiting the contour of the occlusal surface to that “having been molded by interaction with opposing teeth” is in product-by-process form, the latter finding implies that any denture formed by Laszlo’s method meets the last italicized limitation of claim 6. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1318 (Fed. Cir. 2006)(“[A]nticipation by an earlier product patent cannot be avoided by claiming the same product more narrowly in a product-by-process claim.”).

Laszlo’s method also necessarily produces a denture having at least one undercut notch in the receptacle. More precisely, the ordinary usage of the term “notch” is sufficiently broad to include a V-shaped indentation or hollow in a surface (WEBSTER’S THIRD NEW INT’L DICTIONARY (G&C Merriam 1971)(“notch, entry 1, def. 1a)) or, more generally, an undercut (*id.* (“notch,” entry 1, def. 1c)). The ordinary usage of the term “undercut” is sufficiently broad to include cutting away material from the underside of an object so as to leave an overhanging portion in relief (*id.* (“undercut,” entry 1, def. 2) or the result of cutting away the underside of anything (*id.*, (“undercut,” entry 2, def. 1)). The Appellant does not identify any passage of the Specification formally defining the term “undercut notch” more narrowly than its ordinary usage. Neither does the Appellant present any persuasive evidence that the term “undercut notch” would be understood more narrowly in the pertinent art.

This ordinary usage is sufficiently broad to include the downwardly and outwardly flared lower portions of the receptacle 30 of the lateral teeth of dentures made by Laszlo’s method. In addition, the downwardly and

1 outwardly flared lower portions are at least capable of retaining a resin  
2 filling the receptacle and the undercut notch. Therefore, the lateral teeth  
3 formed by Laszlo's method necessarily have undercut notches. (FF 4.)

4  
5 *Second Issue*

6 The Examiner correctly finds that Laszlo describes a method which  
7 necessarily produces a denture including a special denture tooth housing  
8 meeting the limitations of the first indented clause of claim 9. (FF 1.)  
9 Although the special denture tooth housings disclosed in Laszlo are filled  
10 with resin during the course of Laszlo's method, the finished denture  
11 includes the tooth housings. (See FF 8.) The Examiner also correctly finds  
12 that Opatow describes a method in which a central bearing device meeting  
13 the limitations of the second indented clause of claim 9 is removably  
14 attached to a completed denture. (FF 12.)

15 The Examiner is correct in concluding that it would have been  
16 obvious "to modify Opatow to include a tooth housing as shown by Laszlo  
17 in order to better obtain the desired occlusion by an art known alternative  
18 method." (Ans. 4.) Recently, the Supreme Court reaffirmed that, if a claim  
19 which "'simply arranges old elements with each performing the same  
20 function it had been known to perform' and yields no more than one would  
21 expect from such an arrangement, the combination is obvious." *KSR Int'l*  
22 *Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007)(quoting *Sakraida v. Ag Pro,*  
23 *Inc.*, 425 U.S. 273, 282 (1976)). Here, it would have been obvious to  
24 perform Opatow's method for determining the proper relationship of dental  
25 plates using as a starting material a completed denture fabricated by Laszlo's  
26 method. The removable attachment of the central bearing device to Laszlo's

denture during the course of performing Opotow's method would have produced a denture meeting all limitations of claim 9.

Laszlo's method would produce a denture having the same special denture tooth housings regardless whether Opotow's method were subsequently applied to the denture. The Appellant does not appear to allege that Opotow's method would function differently if applied to a denture made by Laszlo's method than if applied to a denture made by another method. In view of this, the results of the combination would have been predictable and combination itself would have been obvious. The Appellant provides no persuasive evidence or argument suggesting that one of ordinary skill could not have performed Opotow's method on a denture fabricated by Laszlo's method.

## CONCLUSIONS

Laszlo describes a method which necessarily produces a denture including a special denture tooth provided with sides and a bottom forming a receptacle and at least one undercut notch in the receptacle, the contour of an occlusal surface of the denture tooth being identical to an occlusal surface conforming to and having been molded by interaction with opposing teeth. We sustain the rejections of claims 6, 10 and 12 under § 102(b) as being anticipated by, or, in the alternative, under § 103(a) as being unpatentable over, Laszlo.

The evidence and technical reasoning underlying the rejection of independent claim 9 adequately support the conclusion that the subject matter of claim 9 would have been obvious. We sustain the rejections of

claims 9, 11, 13, 16 and 18 under § 103(a) as being unpatentable over  
Opotow and Laszlo.

The Appellant provides no arguments suggesting that claim 14 might  
be patentable over Laszlo and Faust if claim 6 is anticipated by Laszlo.  
Neither does the Appellant provide any argument suggesting that claim 15  
might be unpatentable over Opotow, Laszlo and Faust; or that claim 17  
might be patentable over Opotow, Laszlo and Lüth, if claim 9 is  
unpatentable over Opotow and Laszlo. We sustain the rejection of claim 14  
under § 103(a) as being unpatentable over Laszlo and Faust; the rejection of  
claim 15 under § 103(a) as being unpatentable over Opotow, Laszlo and  
Faust; and the rejection of claim 17 under § 103(a) as being unpatentable  
over Opotow, Laszlo and Lüth.

#### DECISION

We AFFIRM the Examiner's decision rejecting claims 6 and 9-18.

No time period for taking any subsequent action in connection with  
this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.  
§ 1.136(a)(1)(iv).

#### AFFIRMED

Klh

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